ABSTRACT OF THE DISCLOSURE

A noise suppressor device capable of attaining perceptually preferable noise suppression while reducing or minimizing quality reduceabilities even in the presence of increased noises, which device is adaptable for use in voice communications systems and speech recognition systems employed in a variety of kinds of noisy environments is provided. To attain the object the device is arranged to include a time-to-frequency converter unit 2 for frequency-analyzing an input signal in units of frames and for converting it into an amplitude spectrum and a phase spectrum, a noise similarity analyzer unit 3 for determining the noise similarity of more than one input signal frame, an average noise spectrum updating and holding unit 4 operatively responsive to receipt of the determination result as output from the noise similarity analyzer unit 3 for using the amplitude spectrum of a frame to update and hold therein an average noise spectrum, a perceptual weight calculator unit 6 for calculation of a plurality of perceptual weights for use in performing perceptual spectrum weighting, a signal-to-noise ("SN") ratio calculator unit 5 for calculating an SN ratio from the amplitude spectrum and the average noise spectrum, a perceptual weight control unit 7 for controlling the plurality of perceptual weights based on the SN ratio, a spectrum subtractor unit 8

for multiplying the average noise spectrum by a perceptual weight as output from the perceptual weight control unit and then subtracting the result from the amplitude spectrum, a spectrum suppression unit 9 for multiplying a noise removed spectrum as obtained from the spectrum subtractor unit by the remaining perceptual weight(s) being output from the perceptual weight control unit, and a frequency/time converter unit 10 for converting an output result of the spectrum suppressor unit to a time domain or "time-base" signal.

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